REMARKS

Claims 1-33 are pending in this application.

The Examiner required restriction among the following three groups of inventions:

Group I, including claims 1-9, characterized by the Examiner as being drawn to nucleic acids, but more accurately directed more specifically to a set of oligonucleotide probes for detecting a plurality of different target nucleotides;

Group II, including claims 10-28, characterized by the Examiner as being drawn to a nucleic acid hybridization method, but more accurately directed more specifically to methods of detecting a plurality of different target polynucleotides involving the set of probes of the type claimed in at least one of the claims of Group I; and

Group III, including claims 29-33, characterized by the Examiner as being drawn to a computer program product, but more accurately directed more specifically to a computer program for identifying a set of target sequences for designing a set of oligonucleotides probes according to claim 1 or for processing hybridization data using the set of oligonucleotide probes according to claim 1.

The Examiner recognized that Groups I and II are related to each other and that Groups II and III are related to each other, but did not recognize that Groups I and III are related to each other, assuming only for the sake of argument that they are related if nothing else than by the dependency of the claims of Group III directly or indirectly from claim 1 of Group I. Moreover, the Examiner did not address the fact that all groups of claims are directed to an invention associated with the detection of target sequences for oligonucleotide probes.

Applicants respectfully traverse the restriction requirement for the following reasons.

The Examiner alleged that the nucleic acid of Group I could be used for the nucleic acid hybridization method of Group II or could be used to make RNA or protein or could be used to

prepare antisense nucleic acid for gene therapy. Applicants respectfully submit that the Examiner has not fully considered the subject matter as claimed in each of the groups of claims. Thus, for example, the Group I claims are drawn to a set of oligonucleotide probes for detection of one or more of a plurality of target polynucleotides, not merely to nucleic acid, as characterized by the Examiner. As discussed in paragraphs 82 to 86 of the specification, this set of oligonucleotide probes includes a collection of promiscuous probes, each of which hybridizes to a predetermined sub-sequence that is shared between at least two target polynucleotides to be detected and distinguished by the probe set. Despite the promiscuity of a respective promiscuous probe hybridizing to more than one target polynucleotide, an individual target polynucleotide can be specifically detected by detecting the hybridization of at least two promiscuous probes to that polynucleotide, wherein different target polynucleotides are identified by different combinations of such probes. Typically, the promiscuous probes are much shorter than conventional gene specific probes (e.g., about 8 to 30 nucleotides in length, as described in paragraph 69 of the specification). It is unrealistic, therefore, that short promiscuous probes whose only reasonable use is in the instant combinatorial detection of target polynucleotides could be used to make any useful RNA or protein with specific, substantial and credible utility. Furthermore, since antisense constructs for gene therapy typically require at least 500 nucleotides to inhibit gene expression *in vivo*, the Examiner's allegation regarding the use of the claimed probe set for antisense nucleic acid preparation would also lack specific, substantial and credible utility. Accordingly, Applicants strongly refute the Examiner's allegation that the claimed oligonucleotide probes could be used in the alleged applications. Accordingly, Applicants respectfully request the withdrawal of the restriction requirement between Groups I and II.

The Examiner asserted that Groups I and III are unrelated, indicating that inventions are unrelated if it can be shown that they are not disclosed as cable of use together and they have different modes of operation, different functions or different effects. The Examiner concluded that the nucleic acids of Group I are not disclosed as capable of use together with the computer program product of Group III and, in essence, that nucleotides are different products than computer program products.

In making his arguments, the Examiner has not addressed the fact that the subject matter of Group I is definitely related to the subject matter of Group III by virtue of the dependency of the claims of Group III, directly or indirectly, from claim 1 of the Group I claims. Moreover, claim 28 of Group II also refers to the use of a digital computer for performing the process of claims 18 or 25. Clearly, to use a digital computer, a computer program, namely a computer program product, is required to provide instructions for the computer to perform the processing. Thus, not only is the subject matter of Group III related to Group I, but it is also related to the subject matter of Group II.

To the extent that the Examiner asserts that the Group I and Group III claims are distinct, restriction is only proper if two or more independent and distinct inventions are claimed in a single application (35 U.S.C. § 121; 37 C.F.R. §§ 1.141(a) and 1.142). Since the Group III claims are literally dependent, directly or indirectly on claim 1 of the Group I claims, the Group III claims cannot be independent and distinct from the Group I claims. Thus, withdrawal and restriction of this asserted basis for restriction of Group III from Group I are respectfully solicited.

Moreover, Applicants respectfully assert that reliance on the classification of the groups of claims does not establish independence and distinctness. The classification system has no statutory recognition as evidence of whether inventions are independent and distinct. The classification system is instead an aide in finding and searching for patents. Accordingly, the classification system is unreliable for requiring restriction between claims to the various aspects of the Applicants' unitary invention.

The courts have stated that applicants are permitted to claim several aspects of their invention in one application. For example, the court in *In re Kuehl*, 475 F.2d 658, 666, 177 USPQ 250, 256 (CCPA 1973), has stated:

> We believe the constitutional purpose of the patent system is promoted by encouraging applicants to claim, and therefore to describe in the manner required by 35 U.S.C. 112, all aspects of what they regard as their inventions, regardless of the number of statutory classes involved.

For the foregoing reasons, Applicants respectfully request the Examiner to reconsider and withdrawn the restrictions requirements in this application.

In accordance with 37 C.F.R. § 1.143, if the restriction requirements are not withdrawn, Applicants hereby provisionally elect for prosecution in this application the claims of Group I, namely claims 1 through 9, without waiving the right to file one or more related applications with respect to any of the non-elected claims.

An early examination and Notice of Allowance with respect to all of the pending claims are respectfully solicited.

Respectfully submitted,

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October 29, 2003 By: _____
(Date)

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